

## CLAIMS

1. A method of providing water comprising:  
passing a first water stream through a depleting compartment of an  
5 electrochemical device to produce a second water stream having an LSI less than  
about 0;  
passing the second water stream through a cathode compartment of the  
electrochemical device to produce a third water stream, the third water stream being  
less corrosive than the first water stream and having an LSI of less than about 0.  
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2. The method of claim 1 wherein corrosivity of the second water stream is  
reduced by passing the water through the cathode compartment.
3. The method of claim 2 wherein the third water stream is made less corrosive  
15 by reducing the concentration of oxidative species in the water stream.
4. The method of claim 1 wherein the electrochemical device comprises an  
electrodeionization device.
- 20 5. A method of providing potable water comprising:  
passing a first water stream through a cathode compartment of an  
electrochemical device to produce a second water stream;  
passing the second water stream through a depleting compartment of an  
electrochemical device to produce a third water stream having an LSI less than about  
25 0, the third water stream being less corrosive than the first water stream.
6. The method of claim 5 wherein corrosivity of the first water stream is reduced  
by passing the water through the cathode compartment.
- 30 7. The method of claim 6 wherein the third water stream is made less corrosive  
by reducing the concentration of oxidative species in the water stream.

8. The method of claim 5 wherein the electrochemical device comprises an electrodeionization device.

5 9. A method of retaining a residual chlorine level in water comprising:  
removing greater than 90% of active chlorine from a first water stream;  
passing the water stream through a depleting compartment of an  
electrochemical device;  
removing a portion of any ions dissolved in the water stream;  
10 introducing the water stream to a loop, the loop including a storage vessel; and  
introducing active chlorine in a second water stream into the loop at a rate  
adequate to maintain an effective average chlorine concentration in the loop.

10. The method of claim 9 wherein the effective chlorine concentration is greater  
15 than 25% of the chlorine concentration in the first water stream.

11. A method of selectively retaining ions in a water supply comprising:  
passing a feed water through a depleting compartment of an electrochemical  
device, the feed water comprising monovalent and divalent ions;  
20 removing at least 30% of the divalent ions from the feed water and retaining at  
least about 80% of a species selected from silica, boron and fluoride, to produce a  
treated water; and  
supplying the treated water for household consumption.

25 12. A method of producing a purified water comprising:  
passing a water stream through a depleting compartment of an electrochemical  
device; and  
adjusting a voltage applied to the electrochemical device to control the current  
passing through the electrochemical device at a level adequate to remove greater than  
30 about 25% of any hardness ions in the water stream and inadequate to remove greater  
than about 10% of any fluoride or silica species from the water stream.

13. The method of claim 12 wherein less than 10% of any fluoride species is removed.

5 14. The method of claim 12 wherein less than 10% of any silica species is removed.

15. The method of claim 12 further comprising passing the purified water through the depleting compartment a second time.

10 16. The method of claim 12 wherein the electrochemical device comprises an electrodeionization device.

15 17. The method of claim 12 wherein the electrochemical device comprises an electrodialysis device.

18. A method comprising:  
passing a feed water through a bed of ion exchange material to remove greater than 30% of any hardness ions from the feed water to produce a softened water;  
20 supplying the softened water for household consumption; and  
discharging a concentrated solution comprising calcium, wherein the sum of the ionic content of the softened water and the ionic content of the concentrated solution is no greater than the total ionic content supplied by the feed water.

25 19. The method of claim 18 wherein the softened water is less corrosive than the feed water.

20. The method of claim 18 further comprising applying an electric current across the bed of ion exchange material.